

Abstract of the Disclosure

A crystal blank for use as a vibrator and a reinforcing plate are joined by direct bonding without an interposed adhesive to form a quartz crystal unit.

- 5 Through-holes are provided in the reinforcing plate by etching with hydrofluoric acid. Excitation electrodes are formed on both major surfaces of the quartz crystal blank corresponding to the through-holes. An AT-cut quartz crystal plate is preferably used as the crystal blank. The
- 10 reinforcing plate may be, for example, a Z-cut quartz crystal plate, an AT-cut quartz crystal plate, or a glass plate.